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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Gerald Lindorfer

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EXAMINER

NATALINI, JEFF WILLIAM

ART UNIT

PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,045	<b>Applicant(s)</b> LINDORFER, GERALD	
	<b>Examiner</b> JEFF NATALINI	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-11 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11, 14 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/10/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **FINAL ACTION**

### ***Claim Objections***

1. Claim 15 objected to because of the following informalities: On line 6-7, 'which contact areas 'is' arranged", should be changed to "which contact areas 'are' arranged". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9, 10, 14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikolaus (WO 01/58731, figures can be seen on this document as provided in the IDS filed 3/10/08; wherein the english will be referred to from US Patent 7028531 which is based from WO 01/58731).

In regard to claims 9 and 17, Nikolaus discloses a sensor system, method of manufacturing a sensor system having:

a thin-film sensor (figure 2a element 12) including a surface having at least two contact areas (figure 2a elements 12a and 12b; col 4 line 47-53);

a printed circuit board including a surface having at least two contact pads (figure 2a elements 11 and 14 form the printed circuit board, as they contain electrically conductive tracks; col 4 lines 20-27 and 40-47), the thin-film sensor arranged relative to

the surface of the printed circuit board such that the surface of the thin-film sensor faces away from the surface of the printed circuit board (see figure 2a and also col 3 lines 43-58, says “sensor element 12 is positioned on the side of support plate which is oriented so as to face away from windshield 1”; as seen in figure 1, based on that description sensor 12 faces away from the windshield-1 and board-11);

a conductive adhesive (described in col 5 lines 3-23) adapted to transmit sensor currents from the thin-film sensor to the printed circuit board, the conductive adhesive adhering to the contact areas of the thin-film sensor and the contact pads on the surface of the printed circuit board (col 3 lines 61-62; col 4 lines 39-46), each contact area joined by the conductive adhesive to a corresponding contact pad of the printed circuit board (col 5 lines 3-23).

Nikolaus lacks specifically wherein a mounting adhesive is applied on the surface of the printed circuit board in between the contact pads and arranged at least in one partial area between the thin-film sensor and the surface of the printed circuit board.

Even though Nikolaus does not specifically state there is a mounting adhesive; in looking at figure 2a, and especially figure 1, in order for the sensor to stay attached to the board (elements 11 and 14) and windshield (element 1) there must be a mounting adhesive, whether it is a type of glue/paste or the elements being soldered together.

It would have been obvious to one with ordinary skill in the art at the time the invention was made for a mounting adhesive to be applied between the sensor element (12) and the board (elements 11 and 14) in order to keep the sensor intact and working properly.

In regard to claims 10, Nikolaus discloses wherein the sensor is a moisture sensor (col 3 line 33-35).

In regard to claim 14, Nikolaus lacks specifically wherein a thermal conductivity of the mounting adhesive is greater than  $.3 \text{ W/(m K)}$ .

MPEP 2144.05 IIB states that a particular parameter must first be recognized as a result effective variable, i.e., a variable which achieves a recognizable result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Nikolaus to include wherein the thermal conductivity is greater than  $.3 \text{ W/(m K)}$  in order in order to properly electrically connect the sensor together (col 4 line 37-46).

In regard to claims 18-20, Nikolaus discloses wherein the surface of the thin-film sensor includes exactly two contact areas (figure 2a elements 12a and 12b; col 4 line 39-46); and the surface of the printed circuit board includes exactly two contact pads (col 3 line 61-62).

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikolaus (7028531) in view of Davis et al. (6867602).

Nikolaus lacks specifically wherein the thin-film sensor is adapted to operate as a capacitive sensor.

Davis et al. discloses wherein a humidity sensor operates as a capacitive sensor (abstract).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Nikolaus to incorporate the sensor into a capacitive type sensor as taught by Davis et al. in order to measure a very small moisture content in gaseous atmospheres (col 1 line 25-35).

#### ***Allowable Subject Matter***

5. Claims 15 and 16 are allowed (once the objection above is corrected, claim 16 must be objected to because it depends from objected claim 15).

In regard to claim 15, the prior art does not teach or render obvious where a surface of the thin-film sensor on which contact areas are arranged is facing away from the surface of the printed circuit board such that the mounting adhesive is arranged between at least two contact pads arranged on the surface of the printed circuit board, such that the contact areas of the thin-film sensor are electrically connected by a conductive adhesive to the contact pads on the surface of the printed circuit board and in the combination as claimed.

#### ***Response to Arguments***

6. Applicant's arguments, see page 2 of arguments, filed 3/10/08, with respect to claims 9-20 have been fully considered and are persuasive. The rejections under 35

U.S.C. 103(a) with respect to Nikolaus (US Patent 7028531) have been withdrawn. The applicant filed an IDS on 3/10/08, disclosing PCT/EP01/01052 filed February 1, 2001 and published August 16, 2001. PCT/EP01/01052 qualifies under prior art under 35 U.S.C. 102(b) and discloses the same features as US Patent 7028531.

Applicant has argued that independent claims 9 and 17 disclose the feature "a surface having at least two contact areas of a thin-film sensor faces away from a surface having at least two contact pads of a printed circuit board", but the actual claim states "the thin film sensor arranged relative to the surface of the printed circuit board such that the surface of the thin-film sensor faces away from the surface of the printed circuit board." A circuit board is known to have many surfaces (a cube/circuit board has six surfaces), and while introducing the surfaces having two contact areas and two contact pads, the claim language states "a thin film sensor/a printed circuit board including a surface", 'including' insinuating the sensor/board has many other surfaces. Claims 9 and 17 are not specific in describing "the surface having at least two contact areas of a thin-film sensor faces away from the surface of a printed circuit board having at least two contact pads" as argued.

### ***Conclusion***

7. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 3/10/08 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE**

**FINAL.** See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFF NATALINI whose telephone number is (571)272-2266. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Diego Gutierrez/  
Supervisory Patent Examiner, Art Unit 2831

/Jeff Natalini/  
Examiner, Art Unit 2831